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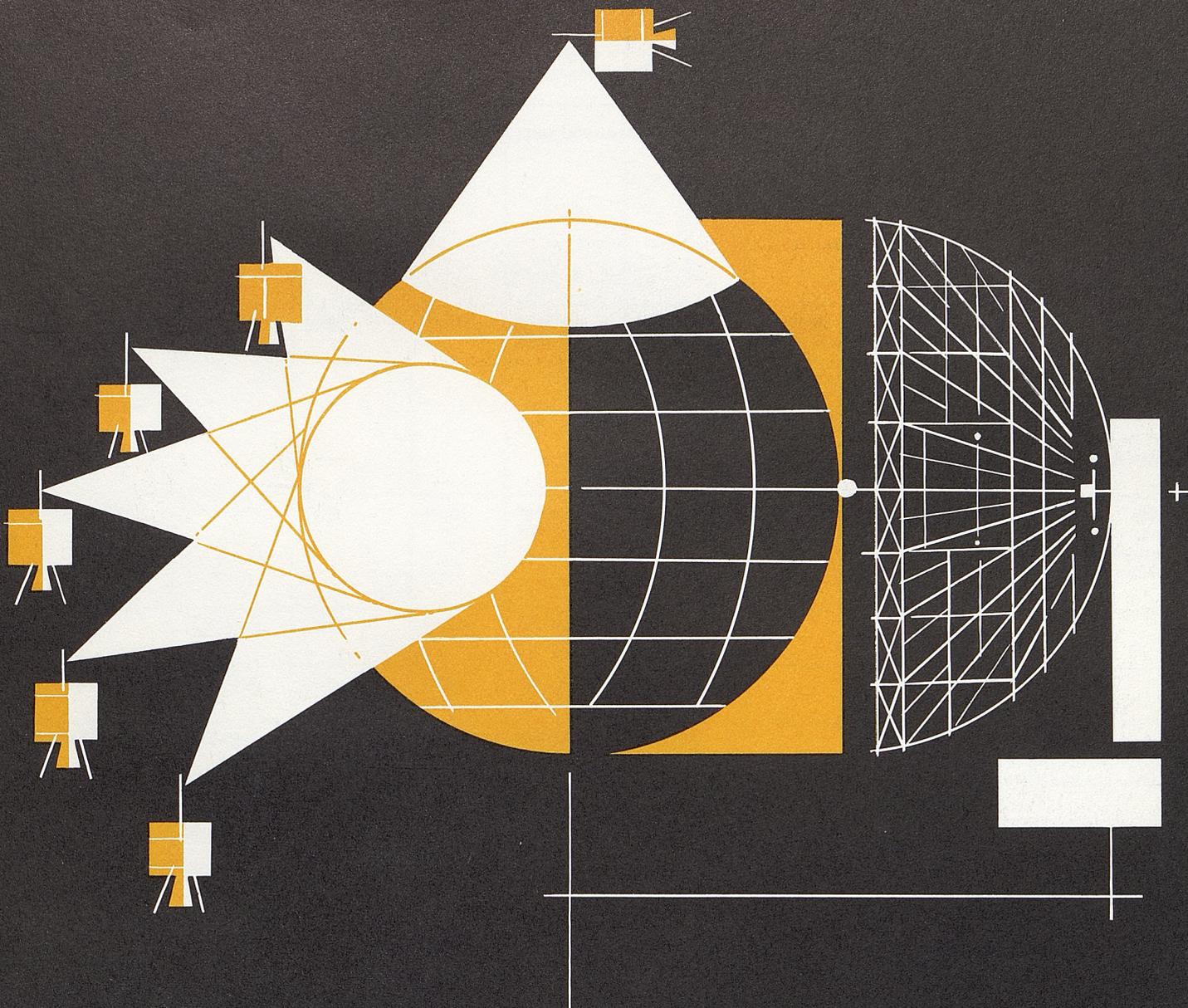
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(ITU) للاتصالات الدولي الاتحاد في والمحفوظات المكتبة قسم أجراه الضوئي بالمسح تصوير نتاج (PDF) الإلكترونية النسخة هذه والمحفوظات المكتبة قسم في المتوفرة الوثائق ضمن أصلية ورقية وثيقة من نقلًا.

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Настоящий электронный вариант (PDF) был подготовлен в библиотечно-архивной службе Международного союза электросвязи путем сканирования исходного документа в бумажной форме из библиотечно-архивной службы МСЭ.



This list of artificial satellites launched in 1968 was prepared from information provided by telecommunication administrations, the Committee on Space Research (COSPAR), the Goddard Space Flight Center (GSFC), the United States National Aeronautics and Space Administration (NASA), the International Frequency Registration Board (IFRB), one of the four permanent organs of the ITU, and from details published in the specialized press. For decayed satellites the data concerning the orbit parameters are those immediately after launching. For the others, still in orbit, the orbit parameters are those reported on 31 December 1968 by GSFC. Fragments or stages of rockets left over from launching operations and placed in orbit with the various spacecraft have not been included.

table of artificial satellites launched between 1 january and 31 december 1968



Code name Description	International number	Country	Date	Perigee Apogee	Period Inclination	Frequencies Transmitter power	Observations
Surveyor-7 1491 kg; tetra- hedral framed spacecraft; height: 3 m; diameter of tripod landing: about 4.3 m	1968-01-A	USA	7 Jan.			2295 MHz 10 W	Landed on moon on 10 January 1968 to take photographs of lunar surface and to study chemical characteristics of lunar soil
Explorer-36 208 kg; diameter: 122 cm; height: 108 cm	1968-02-A	USA	11 Jan.	1084 km 1576 km	112.2 min 105.8°	162 MHz, 324 MHz and 972 MHz at 300, 400 and 500 mW 136.32 MHz 500 mW 5765 MHz 500 W	Geodetic satellite known also as GEOS-2. Carries six geodetic measuring systems: flashing light beacons, optical laser reflectors, radio doppler beacons, radio range transponder and range-rate transponders. Gravity gradient stabilized by means of an extendable 18.3 m boom. Solar cells
Cosmos-199	1968-03-A	USSR	16 Jan.	204 km 386 km	90.2 min 65.7°	19.995 MHz	Decayed on 1 February 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
No name	1968-04-A	USA	17 Jan.	438 km 497 km	93.9 min 75.1°		—
No name	1968-05-A	USA	18 Jan.	135 km 427 km	90.1 min 111.5°		Decayed on 4 February 1968
Cosmos-200	1968-06-A	USSR	20 Jan.	509 km 519 km	94.8 min 74°		Carries scientific apparatus radio system for precise measurements of orbital elements and radiotelemetry system
Apollo-5 14 368 kg; bug-shaped lunar module; diameter: 4.29 m; height: 5.41 m	1968-07-A and 1968-07-B	USA USA	22 Jan. 22 Jan.	161 km 220 km	88.3 min 31°	5765 MHz 500 to 700 W 230.9; 237.8; 241.5; 247.3; 257.3 MHz 10 W 2282.5 MHz 20 W	Objective was to test and evaluate the lunar module for operations in space. In orbit separated in two parts: ascent-motor stage (1968-07-A) decayed on 24 January 1968; descent-motor stage (1968-07-B) decayed on 12 February 1968
No name	1968-08-A	USA	24 Jan.	176 km 434 km	90.6 min 81.4°		Decayed on 27 February 1968
Cosmos-201	1968-09-A	USSR	6 Feb.	202 km 327 km	89.9 min 64.9°	19.995 MHz	Decayed on 14 February 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
Cosmos-202	1968-10-A	USSR	20 Feb.	220 km 502 km	91.5 min 48.4°		Decayed on 24 March 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
Cosmos-203	1968-11-A	USSR	20 Feb.	1185 km 1204 km	109.2 min 74°		Carries scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
No name	1968-12-A	United States	2 March	1026 km 1146 km	106.9 min 89.9°		—
Zond-4	1968-13-A	USSR	2 March				Automatic station to study outlying regions of near-earth space and improve new systems and units aboard the station

Code name Description	International number	Country	Date	Perigee Apogee	Period Inclination	Frequencies Transmitter power	Observations
OGO-5 weight: 611 kg; main body rectangular length: 1.82 m; width: 0.91 m; height: 0.91 m; spacecraft with appendages deployed: 14.93 m long; 6.7 m wide	1968-14-A	United States	4 March	36 136 km 113 651 km	3842.9 min 57°	Data trans- mission: 400.249 MHz 4 W; 400.849 MHz 500 mW Two tracking beacons: 136.2 MHz 100 mW; 136.200 MHz 10 W	Orbiting Geophysical Observatory. Two solar panels
Cosmos-204	1968-15-A	USSR	5 March	244 km 523 km	92.2 min 70.9°		Carries scientific apparatus, radio system for precise measurements of orbital elements and radiotele- metry system
Cosmos-205	1968-16-A	USSR	5 March	201 km 310 km	89.4 min 65.7°	19.995 MHz	Decayed on 13 March 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotele- metry system
Explorer-37 89.81 kg cylindrical 12-sided spacecraft; 68.6 cm high; 76.2 cm across	1968-17-A	United States	5 March	502 km 880 km	98.5 min 59.4°	Data trans- mission: 136.530; 137.590 MHz 150 mW 136.410 MHz 500 mW	Solar radiation satellite. To moni- tor and measure solar X-ray emis- sion. Solar cells
No name	1968-18-A	United States	13 March	132 km 418 km	89.9 min 99.9°		Decayed on 24 March 1968
Cosmos-206	1968-19-A	USSR	14 March	595 km 635 km	96.9 min 81.2°		Meteorological satellite of the <i>Meteor Metsat</i> system. Two solar panels
No name	1968-20-A	United States	14 March	183 km 390 km	90.2 min 83°		Decayed on 10 April 1968
Cosmos-207	1968-21-A	USSR	16 March	210 km 342 km	89.8 min 65.6°	19.995 MHz	Decayed on 24 March 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and telemetry systems
Cosmos-208	1968-22-A	USSR	21 March	207 km 305 km	89.4 min 65°	19.995 MHz	Decayed on 2 April 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
Cosmos-209	1968-23-A	USSR	22 March	879 km 937 km	103.1 min 65.3°		Carries scientific apparatus, radio system for precise measurements of orbital elements and telemetry system. Manoeuvred into orbit
Cosmos-210	1968-24-A	USSR	3 April	217 km 395 km	90.3 min 81.2°	19.995 MHz	Decayed on 11 April 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
Apollo-6 40 678 kg conical command module, service module and lunar module, test article and a spacecraft lunar module adapter; diameter: 391 to 660 cm; total height: 29 m	1968-25-A	United States	4 April	178 km 364 km	98.93 min 28.3°	5765 MHz 400 W 237.8 MHz 10 W 227.5 MHz 2.9 W	Qualification tests of <i>Saturn-V</i> rocket in powered flight and <i>Apollo</i> spacecraft. Returned to earth on 4 April 1968. Partial success of the mission. Fuel cell power plant, storage batteries

Code name Description	International number	Country	Date	Perigee Apogee	Period Inclination	Frequencies Transmitter power	Observations
OV1-13	1968-26-A	United States	6 April	561 km 9315 km	199.5 min 99.9°		<i>Orbital Vehicle</i> project. Spacecraft carrying nine experiments to study the effect of cosmic radiation and to determine the nature of friction and wear on specific material in space
OV1-14	1968-26-B	United States	6 April	562 km 9931 km	207.8 min 100.0°		<i>Orbital Vehicle</i> project; spacecraft carrying eight experiments consisting of an array of equipment and detectors to measure the electromagnetic interference at specific orbital altitudes
Luna-14	1968-27-A	USSR	7 April	selenocentric orbit			Investigation of circumlunar space. Fourth Soviet moon's artificial satellite. Put on selenocentric orbit on 11 April 1968.
Cosmos-211	1968-28-A	USSR	9 April	210 km 1574 km	102.5 min 81.9°		Decayed on 10 November 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
Cosmos-212	1968-29-A	USSR	14 April	210 km 239 km	88.75 min 51.7°	20.008 MHz	Unmanned spacecraft. Automatic docking with <i>Cosmos-213</i> on 14 April 1968. Landed on 19 April. Two solar cells
Cosmos-213	1968-30-A	USSR	15 April	205 km 291 km	89.16 min 51.4°		Unmanned spacecraft. Automatic docking with <i>Cosmos-212</i> on 14 April 1968. Landed on 20 April. Two solar panels
No name	1968-31-A	United States	17 April	127 km 415 km	89.9 min 111.4°		Decayed on 29 April 1968
Cosmos-214	1968-32-A	USSR	18 April	211 km 403 km	90.3 min 81.4°	19.995 MHz	Decayed on 26 April 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
Cosmos-215	1968-33-A	USSR	19 April	261 km 426 km	91.1 min 48.5°		Re-entered on 30 June 1968. Carried eight 70-mm diameter telescopes
Cosmos-216	1968-34-A	USSR	20 April	199 km 277 km	89.1 min 51.8°	19.995 MHz	Decayed on 28 April 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
8th Molnya-I	1968-35-A	USSR	21 April	819 km 39 524 km	717.5 min 65.1°	Transmitting: 800 MHz band 40 W Receiving: 1000 MHz	Carries apparatus for transmitting television programmes and multi-channel radiocommunications, apparatus of the command measuring complex, orientation system, orbit correction system and power supplies. Six solar panels.
Cosmos-217	1968-36-A	USSR	24 April	396 km 520 km	93.4 min 62.2°		Decayed on 26 April 1968, carried scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
Cosmos-218	1968-37-A	USSR	25 April	144 km 210 km	50°		Decayed on 25 April 1968 with one revolution. Carried scientific apparatus
Cosmos-219	1968-38-A	USSR	26 April	200 km 917 km	95.8 min 48.3°		Carries scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system

Code name Description	International number	Country	Date	Perigee Apogee	Period Inclination	Frequencies transmitter power	Observations
No name	1968-39-A	United States	1 May	156 km 259 km	88.6 min 83.0°		Decayed on 15 May 1968
Cosmos-220	1968-40-A	USSR	7 May	676 km 755 km	99.0 min 74°		Carries scientific apparatus
IRIS (ESRO-II) 80 kg; cylindrical spacecraft; height (less antenna): 85 cm; diameter: 76 cm	1968-41-A	Europe	17 May	330 km 1015 km	98.1 min 97.2°	136.05 MHz 136.89 MHz 0.2 W	First European Space Research Organization (ESRO) satellite. Measurements of the solar and cosmic radiations. Solar cells
No name	1968-42-A	United States	23 May	820 km 900 km	102.1 min 98.9°		
Cosmos-221	1968-43-A	USSR	24 May	209 km 1580 km	108.8 min 48.3°		Carries scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
Cosmos-222	1968-44-A	USSR	30 May	277 km 528 km	92.3 min 71°		Decayed on 11 October 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
Cosmos-223	1968-45-A	USSR	1 June	212 km 374 km	90.1 min 72.9°	19.995 MHz	Decayed on 9 June 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
Cosmos-224	1968-46-A	USSR	4 June	200 km 270 km	89 min 51.8°	19.995 MHz	Decayed on 12 June 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
No name	1968-47-A	United States	5 June	149 km 420 km	90.1 min 110.5°		Decayed on 17 June 1968
Cosmos-225	1968-48-A	USSR	12 June	275 km 530 km	92.2 min 48.4°		Decayed on 2 November 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
Cosmos-226	1968-49-A	USSR	12 June	575 km 639 km	96.8 min 81.2°		Carries scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system. Meteorological satellite
IDCSP-19 45 kg; polyedral spacecraft diameter: 90 cm	1968-50-A	United States	13 June	33 724 km 33 856 km	1335.3 min 0.1°	Transmission: 401-402 MHz 0.25 W 7250-7300 MHz 2 W Tracking: 7299.5 MHz 0.2 W Reception: 7975-8025 MHz	Initial Defense Communication Satellite Project. United States Government telecommunication satellite
IDCSP-20 (see No. 19)	1968-50-B	United States	13 June	33 731 km 33 866 km	1335.7 min 0.2°	id.	United States Government telecommunication satellite
IDCSP-21 (see No. 19)	1968-50-C	United States	13 June	33 741 km 33 887 km	1336.5 min 0.1°	id.	United States Government telecommunication satellite
IDCSP-22 (see No. 19)	1968-50-D	United States	13 June	33 734 km 33 952 km	1337.9 min 0.1°	id.	United States Government telecommunication satellite
IDCSP-23 (see No. 19)	1968-50-E	United States	13 June	33 696 km 34 071 km	1340.0 min 0.1°	id.	United States Government telecommunication satellite

Code name Description	International number	Country	Date	Perigee Apogee	Period Inclination	Frequencies Transmitter power	Observations
IDCSP-24 (see No. 19)	1968-50-F	United States	13 June	33 752 km 34 111 km	1342.4 min 0.5°	id.	United States Government tele- communication satellite
IDCSP-25 (see No. 19)	1968-50-G	United States	13 June	33 723 km 34 266 km	1345.5 min 0.1°	id.	United States Government tele- communication satellite
IDCSP-26 (see No. 19)	1968-50-H	United States	13 June	33 730 km 34 394 km	1348.9 min 0.1°	id.	United States Government tele- communication satellite
Cosmos-227	1968-51-A	USSR	18 June	194 km 281 km	89.1 min 51.8°	19.995 MHz	Decayed on 26 June 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotele- metry system
No name	1968-52-A	United States	20 June	182 km 403 km	90.3 min 85°		Decayed on 16 July 1968
Cosmos-228	1968-53-A	USSR	21 June	206 km 259 km	89 min 51.6°	19.995 MHz	Decayed on 3 July 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotele- metry system
Cosmos-229	1968-54-A	USSR	26 June	210 km 354 km	89.9 min 72.8°	19.995 MHz	Decayed on 4 July 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotele- metry system
Explorer-38 275.5 kg; cylin- drical spacecraft; diameter: 1.5 m height: 1.5 m; four 228.6-metre- long antennas forming an « X » with the space- craft structure	1968-55-A	United States	4 July	5837 km 5867 km	224.3 min 120.8°	Data trans- mitted on 136.350 MHz 250 mW 137.290 MHz 1.5 W on command	Study of radio signals from outer space. Radio Astronomy Explorer (RAE). Four solar panels
Cosmos-230	1968-56-A	USSR	5 July	290 km 580 km	93 min 48.5°		Decayed on 2 November 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotele- metry system
9th Molnya-I	1968-57-A	USSR	5 July	563 km 39 779 km	717.5 min 65°	Transmitting: 800 MHz band 40 W Receiving: 1000 MHz band	Carries apparatus for transmitting television programmes and multi- channel radio communications, apparatus of the command measur- ing complex, orientation system, orbit correction system and power supplies. Six solar panels
Cosmos-231	1968-58-A	USSR	10 July	211 km 330 km	89.7 min 65°	19.995 MHz	Decayed on 18 July 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotele- metry system
OV1-15	1968-59-A	United States	11 July	153 km 1800 km	104.6 min 89.8°		Decayed on 6 November 1968. Project <i>Orbital Vehicle</i> . Correlation between air density and solar radiation
OV1-16	1968-59-B	United States	11 July	145 km 556 km	91.5 min 89.8°		Decayed on 19 August 1968. Project <i>Orbital Vehicle</i> . Study of ionospheric drag
Cosmos-232	1968-60-A	USSR	16 July	202 km 352 km	89.8 min 65°	19.995 MHz	Decayed on 24 July 1968. Carried scientific apparatus, radio- system for precise measurements of orbital elements and radiotele- metry system

Code name Description	International number	Country	Date	Perigee Apogee	Period Inclination	Frequencies Transmitter power	Observations
Cosmos-233	1968-61-A	USSR	18 July	185 km 795 km	94.3 min 81.9°		Carries scientific apparatus, radio-system for precise measurements of orbital elements and radiotelemetry system
Cosmos-234	1968-62-A	USSR	30 July	210 km 310 km	89.5 min 51.0°	19.995 MHz	Decayed on 5 August 1968. Carried scientific apparatus, radio-systems for precise measurements of orbital elements and radiotelemetry system
No name	1968-63-A	United States	6 Aug.	31 673 km 39 853 km	1436 min 9.9°		Near-synchronous equatorial orbit
No name	1968-64-A	United States	6 Aug.	109 km 452 km	90.1 min 110.1°		Decayed on 16 August 1968
No name	1968-65-A	United States	7 Aug.	149 km 253 km	88.4 min 82.0°		Decayed on 27 August 1968
Explorer-39 9.3 kg; 3.6 m polka-dotted sphere	1968-66-A	United States	8 Aug.	694 km 2464 km	117.7 min 80.6°	136.620 MHz 50 mW	<i>Air Density Explorer</i> : Measurement of air density and drag in the upper atmosphere. Solar cells.
Explorer-40 69.6 kg; six-sided cylinder; diameter: 76.2 cm; height: 73.7 cm	1968-66-B	United States	8 Aug.	682 km 2530 km	118.3 min 80.6°	136.290 MHz 250 mW 400.650 MHz 0.8 W	<i>Injun Explorer</i> : Measurement of charged particles reaching the upper atmosphere. Solar cells
Cosmos-235	1968-67-A	USSR	9 Aug.	207 km 303 km	89.4 min 51.8°	19.995 MHz	Decayed on 17 August 1968. Carried scientific apparatus, radio-system for precise measurements of orbital elements and radiotelemetry system
ATS-4 392 kg; cylinder length: 1.8 m; diameter: 1.4 m; four gravity gradient booms; two 13.7 m damper booms	1968-68-A	USSR	10 Aug.	218 km 767 km	94.6 min 29.0°	4119.599 and 4178.591 MHz 320 W 4135.946 and 4195.172 MHz 8 W 136.470 and 137.350 MHz 2 W	Decayed on 17 October 1968. Applications Technology Satellite, gravity gradient stabilization, meteorological television camera, communication and ion engine experiments planned. Due to malfunction of launch vehicle the planned synchronous orbit was not obtained and the satellite tumbled. Solar cells
ESSA-7 166 kg; nearly cylindrical satellite; height: 57 cm; diameter: 107 cm	1968-69-A	United States	16 Aug.	1432 km 1475 km	114.9 min 101.7°	235 and 1697 MHz 5 W 136.77 MHz 250 mW	Meteorological satellite. Provides global photographs of cloud over earth's surface, measurements of global distribution of solar radiation reflected by the earth and its atmosphere and of the long-wave radiant energy emitted by the earth. Solar cells
Cosmos-236	1968-70-A	USSR	27 Aug.	595 km 620 km	96.8 min 56.0°		Carries scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
Cosmos-237	1968-71-A	USSR	27 Aug.	201 km 343 km	89.7 min 65.4°	19.995 MHz	Decayed on 4 September 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
Cosmos-238	1968-72-A	USSR	29 Aug.	199 km 219 km	88.5 min 51.7°		Decayed on 1 September 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system

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Cosmos-239	1968-73-A	USSR	5 Sept.	202 km 282 km	89.2 min 51.8°	19.995 MHz	Decayed on 13 September 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
No name	1968-74-A	United States	10 Sept.	130 km 413 km	89.9 min 105.9°		Decayed on 25 September 1968
Cosmos-240	1968-75-A	USSR	14 Sept.	197 km 293 km	89.3 min 51.8°	19.995 MHz	Decayed on 21 September 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
Zond-5	1968-76-A	USSR	14 Sept.	flight on an earth-moon-earth path			Automatic space station. After a seven-day flight returned to earth on 21 September 1968 at a point in the Indian Ocean 32° 28' latitude south and 65° 33' longitude east. Flew around the moon, carried out scientific research of outer space in the lunar area and technical programme. Two solar panels
Cosmos-241	1968-77-A	USSR	16 Sept.	201 km 343 km	89.7 min 65.4°	19.995 MHz	Decayed on 24 September 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
No name	1968-78-A	United States	18 Sept.	178 km 391 km	90.1 min 83.0°		Decayed on 18 October 1968.
Cosmos-242	1968-79-A	USSR	20 Sept.	280 km 440 km	91.3 min 71°		Decayed on 13 November 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
Cosmos-243	1968-80-A	USSR	23 Sept.	210 km 319 km	89.6 min 71.3°	19.995 MHz	Decayed on 4 October 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
OV2-5 204 kg	1968-81-A	United States	26 Sept.	near synchronous orbit		136.620 MHz 2 W 10.004; 15.016; 30.012 and 30.112 MHz 2 W	<i>Orbital Vehicle</i>
ERS-28 10 kg	1968-81-B	United States	26 Sept.	183 km 35 786 km	630.7 min 26.3°	136.830 MHz	<i>Experimental Research Satellite.</i> Monitoring particle radiation
ERS-21 12.6 kg	1968-81-C	United States	26 Sept.	35 775 km 35 786 km	1435.8 min 3.0°	136.860 MHz	<i>Experimental Research Satellite.</i> Measurement of data on heat transfer to a liquid under zero-g conditions
LES-6 160 kg cylinder; height: 1.71 m; diameter: 1.21 m	1968-81-D	United States	26 Sept.	synchronous orbit		225 to 400 MHz band	<i>Lincoln Experimental Satellite</i> for telecommunications. Solar cells
Cosmos-244	1968-82-A	USSR	2 Oct.	140 km 212 km	50°		Decayed on 2 October 1968. Carried scientific apparatus
Cosmos-245	1968-83-A	USSR	3 Oct.	234 km 335 km	90.1 min 70.9°		Carries scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
Aurorae (ESRO-I) 84 kg cylinder; height: 93 cm; diameter: 76 cm	1968-84-A	Europe	3 Oct.	261 km 1434 km	101.8 min 93.7°	136.170 MHz 0.2 W 136.950 MHz 1.2 W	European Space Research Organisation (ESRO) satellite. On board experiments particle measuring instruments auroral photometer electron probes and ion probe. Solar cells

Code name Description	International number	Country	Date	Perigee Apogee	Period Inclination	Frequencies transmitter power	Observations
10th Molnya-1	1968-85-A	USSR	5 Oct.	437 km 39 930 km	718.0 min 65.1°	Transmitting 800 MHz band 40 W Receiving 1000 MHz band	Carries apparatus for transmitting television programmes and multi-channel radiocommunications, apparatus of the command measuring complex, orientation system, orbit correction system and power supplies. Six solar panels.
No name	1968-86-A	United States	5 Oct.	480 km 505 km	94.4 min 74.9°		
Cosmos-246	1968-87-A	USSR	7 Oct.	147 km 348 km	89.4 min 65.4°	19.995 MHz	Decayed on 12 October 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
Cosmos-247	1968-88-A	USSR	11 Oct.	205 km 362 km	89.9 min 65.4°	19.995 MHz	Decayed on 19 October 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
Apollo 7 16 415 kg; command module, service module and spacecraft-lunar module adaptor; diameter: 391 cm to 660 cm; total height: 29 m	1968-89-A	United States	11 Oct.	229 km 306 km	89.9 min 31.6°	tracking beacon 2106.406 MHz 16.5 W Data transmission 2272.5 MHz 11.2 W	First <i>Apollo</i> manned spacecraft flight. Three astronauts on board: W. Schirra, D. Eisele, W. Cunningham. Tests for preparation of the manned lunar landing programme. Spacecraft landed on 22 October 1968, 200 nautical miles south-south-west of Bermuda. Fuel cell power plant, storage batteries
Cosmos-248	1968-90-A	USSR	19 Oct.	468 km 545 km	94.7 min 62.2°		Carries scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
Cosmos-249	1968-91-A	USSR	20 Oct.	492 km 2157 km	112.1 min 62.3°		Carries scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
No name	1968-92-A	United States	23 Oct.	802 km 850 km	101.3 min 99.0°		
Soyuz-2 three-module spaceship	1968-93-A	USSR	25 Oct.	185 km 224 km	88.5 min 51.7°		Landed on 28 October 1968 in the USSR; unmanned spaceship. Two solar panels
Soyuz-3 three-module spaceship	1968-94-A	USSR	26 Oct.	205 km 225 km	88.6 min 51.4°	15.008 and 20.008 MHz	Landed on 30 October 1968 in the USSR. Spaceship piloted by cosmonaut Georgiy Beregovoy. Carried out scientific studies and observations; successful rendezvous with unmanned <i>Soyuz-2</i> . Two solar panels
Cosmos-250	1968-95-A	USSR	30 Oct.	518 km 541 km	95.2 min 74°		Carries scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
Cosmos-251	1968-96-A	USSR	31 Oct.	198 km 270 km	89.1 min 65°	19.150 MHz	Decayed on 18 November 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
Cosmos-252	1968-97-A	USSR	1 Nov.	529 km 2150 km	112.4 min 62.3°		Carries scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system

Code name Description	International number	Country	Date	Perigee Apogee	Period Inclination	Frequencies Transmitter power	Observations
No name	1968-98-A	United States	3 Nov.	148 km 284 km	88.7 min 82.1°		Decayed on 23 November 1968
No name	1968-99-A	United States	6 Nov.	129 km 389 km	88.6 min 106.0°		Decayed on 20 November 1968
Pioneer-9 65 kg; cylindrical shape; height: 89 cm; diameter: 94 cm	1968-100-A	United States	8 Nov.	heliocentric orbit		2292 MHz 8 W Command received on 50 and 425 MHz	Studies of interplanetary space. Solar cells
TETR-2 18 kg; octahedron spacecraft each, side about 30 cm in length	1968-100-B	United States	8 Nov.	376 km 930 km	97.8 min 32.8°	136.86 MHz 100 mW 82.5 MHz 500 mW	Test and training satellite used to exercise and test the <i>Apollo</i> tracking and communications network. Solar cells
ZOND-6	1968-101-A	USSR	10 Nov.	flight on an earth-moon-earth path			Space research and testing of on-board system and units. Returned photos of the moon. Landed on 17 November 1968 in the USSR. Two solar panels
Cosmos-253	1968-102-A	USSR	13 Nov.	206 km 355 km	89.9 min 65.4°	19.995 MHz	Decayed on 18 November 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
Proton-4 total weight: 17 000 kg; scientific apparatus weight: 12 500 kg	1968-103-A	USSR	16 Nov.	249 km 456 km	91.5 min 51.5°	19.910 MHz	Carries instrumentation for investigation of cosmic rays
Cosmos-254	1968-104-A	USSR	21 Nov.	203 km 350 km	89.8 min 65.4°	19.995 MHz	Decayed on 29 November 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
Cosmos-255	1968-105-A	USSR	29 Nov.	201 km 336 km	89.7 min 65.4°	19.995 MHz	Decayed on 7 December 1968. Carried scientific apparatus, radio system or precise measurements of orbital elements and radiotelemetry system
Cosmos-256	1968-106-A	USSR	30 Nov.	1173 km 1226 km	109.4 min 74°		Carries scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
Cosmos-257	1968-107-A	USSR	3 Dec.	266 km 419 km	91.3 min 70.9°		Carries scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
No name	1968-108-A	United States	5 Dec.	134 km 603 km	91.9 min 106.1°		Decayed on 12 December 1968
HEOS-1 109 kg; 16 sided satellite; length: 170 cm; diameter: 130 cm	1968-109-A	Europe	5 Dec.	439 km 224 436 km	6351.8 min 28.2°	Transmission 136.65 MHz 6 W Reception: 148.25 MHz	European Space Research Organization (ESRO) satellite. Measurements of the interplanetary magnetic field, cosmic radiation and the solar wind; solar cells

Code name Description	International number	Country	Date	Perigee Apogee	Period Inclination	Frequencies Transmitter power	Observations
<p>ОАО-2</p> <p>2012 kg; nearly cylindrical spacecraft; length: 305 cm; diameter with solar panel extended: 648 cm</p>	1968-110-A	United States	7 Dec.	766 km 777 km	100.3 min 35°	Data transmitted on: 400.550 MHz 7 W 132.260 MHz 1.6 W Tracking beacon: 136.440 MHz 160 mW	Orbiting Astronomical Observatory. Two solar panels
Cosmos-258	1968-111-A	USSR	10 Dec.	210 km 325 km	89.6 min 65°	19.995 MHz	Decayed on 18 December 1968. Carried scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
No name	1968-112-A	United States	12 Dec.	175 km 238 km	88.6 min 81.0°		Decayed on 28 December 1968
Cosmos-259	1968-113-A	USSR	14 Dec.	213 km 1307 km	100.0 min 48.4°		Carries scientific apparatus, radio system for precise measurements of orbital elements and radio telemetry system
ESSA-8	1968-114-A	United States	15 Dec.	1417 km 1464 km	114.6 min 101.8°	Automatic picture transmission: 137.620 MHz 5 W Tracking beacon: 136.770 MHz 250 mW	Meteorological satellite with APT equipment. Solar cells
Cosmos-260	1968-115-A	USSR	16 Dec.	511 km 39 576 km	712.3 min 64.9°		Carries scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system
<p>Intelsat-III-F2</p> <p>287 kg cylinder; height: 104 cm; diameter: 142 cm</p>	1968-116-A	United States	19 Dec.	35 770 km 35 790 km	1435.9 min 0.7°	Transmission: 3817.5, 3967, 4082.5 MHz Reception: 6042.5, 6307.5 MHz	<i>Intelsat</i> commercial telecommunication satellite. 1200 two-way voice channels or four television channels in geostationary orbit above the Atlantic Ocean at 31° W longitude
Cosmos-261	1968-117-A	USSR	20 Dec.	206 km 637 km	92.9 min 71°		Carries scientific apparatus for study of upper atmosphere of the earth and nature of Aurora Polaris
<p>Apollo-8</p> <p>30 781 kg; command module, service module and spacecraft-lunar adaptor; diameter: 391 to 660 cm; total height: 29 m</p>	1968-118-A	United States	21 Dec.	earth-moon trajectory, 10 lunar orbits, moon-earth trajectory 166 km 540 355 km	24 399 min 30.7°	Data transmission: 2287.5 MHz 16.5 W Television pictures: 2272.5 MHz 6.7 W Reception: 2106.4 MHz	Three-man spacecraft; astronauts: F. Borman, J. Lovell, A. Anders. Objectives: to prove the capability of the <i>Apollo</i> command and service module and the crew to operate at lunar distances. Batteries and fuel cells. Landed on 27 December 1968 in the Pacific; 550 miles from Christmas Island after a 147-hour trip including 10 orbits around the moon
Cosmos-262	1968-119-A	USSR	26 Dec.	264 km 791 km	95.2 min 48.4°		Carries scientific apparatus, radio system for precise measurements of orbital elements and radiotelemetry system

